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Kane et al.

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[54] **SPRAY CONTAINMENT AND ENCLOSURE ASSEMBLY**

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[51] **Int. Cl.**[6] **B05B 15/00**; B24C 9/00

[52] **U.S. Cl.** **118/326**; 182/142; 182/2

[58] **Field of Search** 118/500, 326; 182/143, 150, 129, 2; 51/410, 424, 426, 429

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Assistant Examiner—Calvin Padgett
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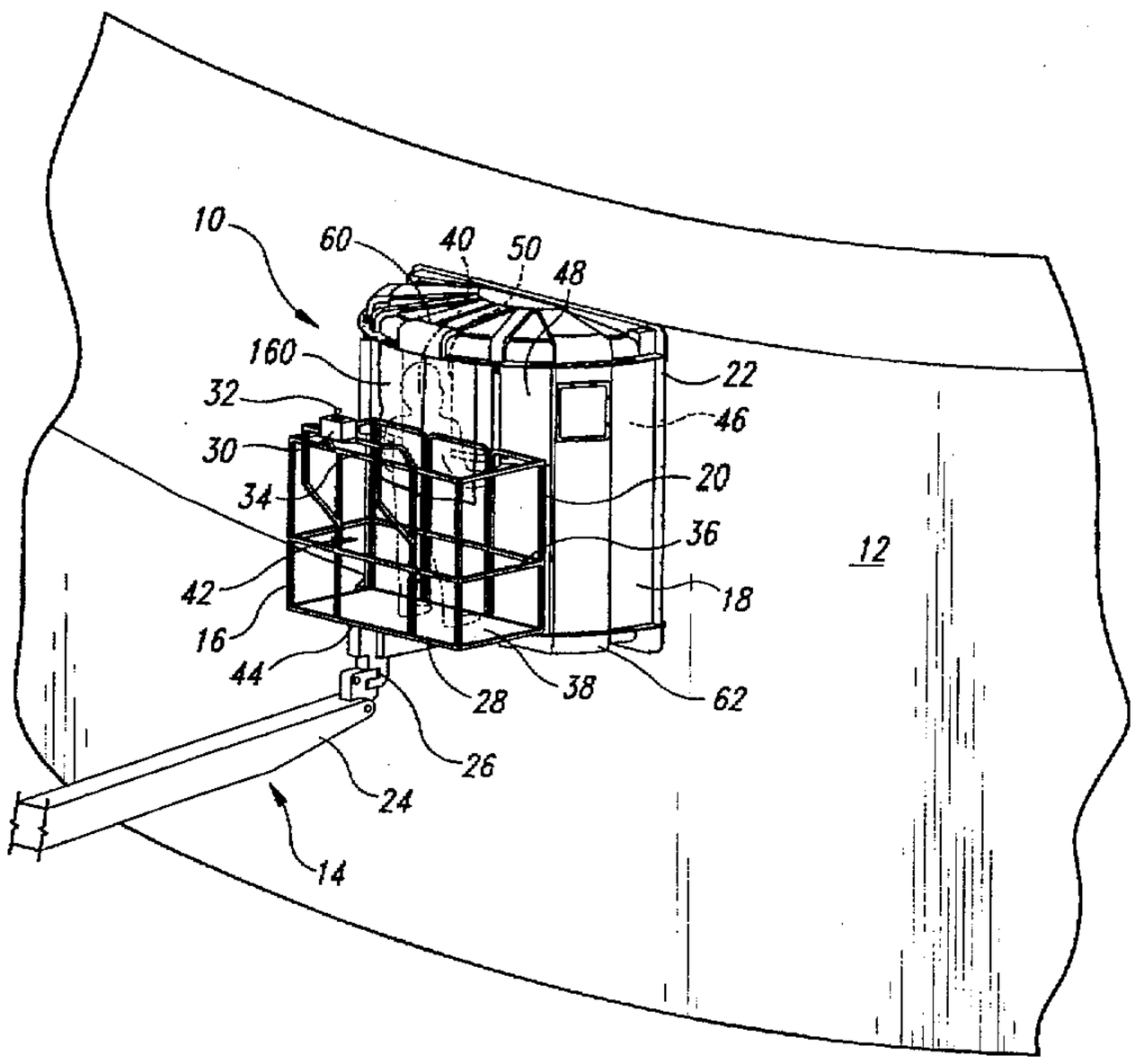
[57] **ABSTRACT**

A spray containment enclosure assembly for use during the spraying operation on a work surface to prevent escape of airborne particles to the environment. The assembly includes a support arm, a personnel basket sized to receive a worker therein, a rigid enclosure attached to the personnel basket. The rigid enclosure is positioned with respect to the personnel basket such that when the worker is in the forward portion, at least a portion of an upper torso of the worker is within an interior area. The rigid enclosure has an open front side that is adapted to be positioned adjacent to the work surface to form an airway gap therebetween to allow air to flow into the interior area. A fan mounted to the rigid enclosure is adapted to create negative pressure in the interior area to draw air inwardly through the airway gap. An air filter is supported in the interior area and positioned to filter the air and removes particulates within the air from the air prior to the air being exhausted out of the interior area by the fan. A cross member extends across the interior area and has a recess that is covered by a yieldable skirt seal adapted to sealably engage an upper torso of the worker to block air from moving between the upper torso of the worker and the cross member. A flexible, air-impervious curtain is attached to the enclosure and positioned to substantially cover a rear wall opening and to sealably engage the rear portion of the worker's upper torso to block air flow from entering the interior area through the rear wall opening around the worker's upper torso. Air effectively enters only through the airway gap formed between the rigid enclosure and the work surface thereby preventing airborne particulates from exiting the interior area.

29 Claims, 5 Drawing Sheets



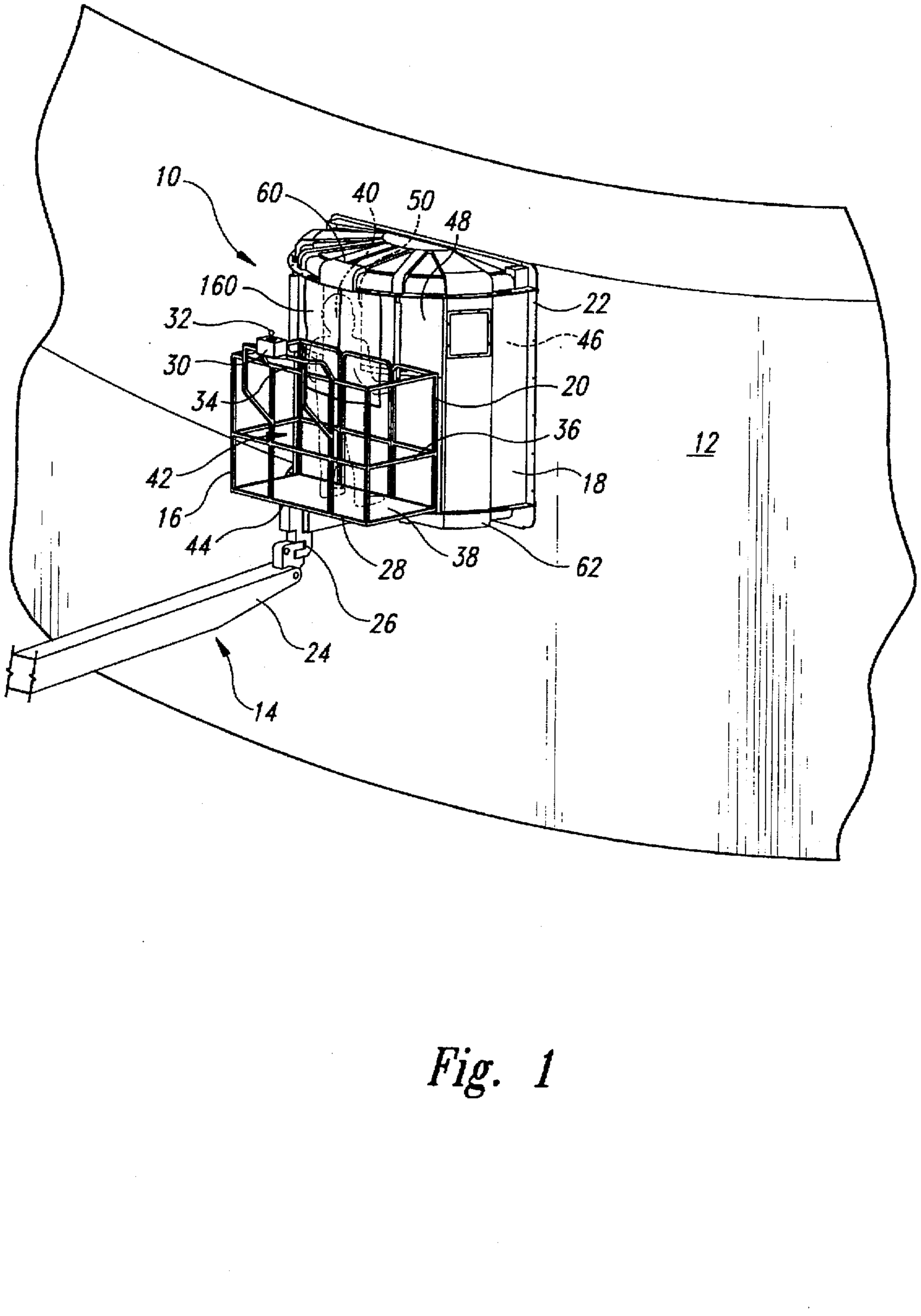


Fig. 1

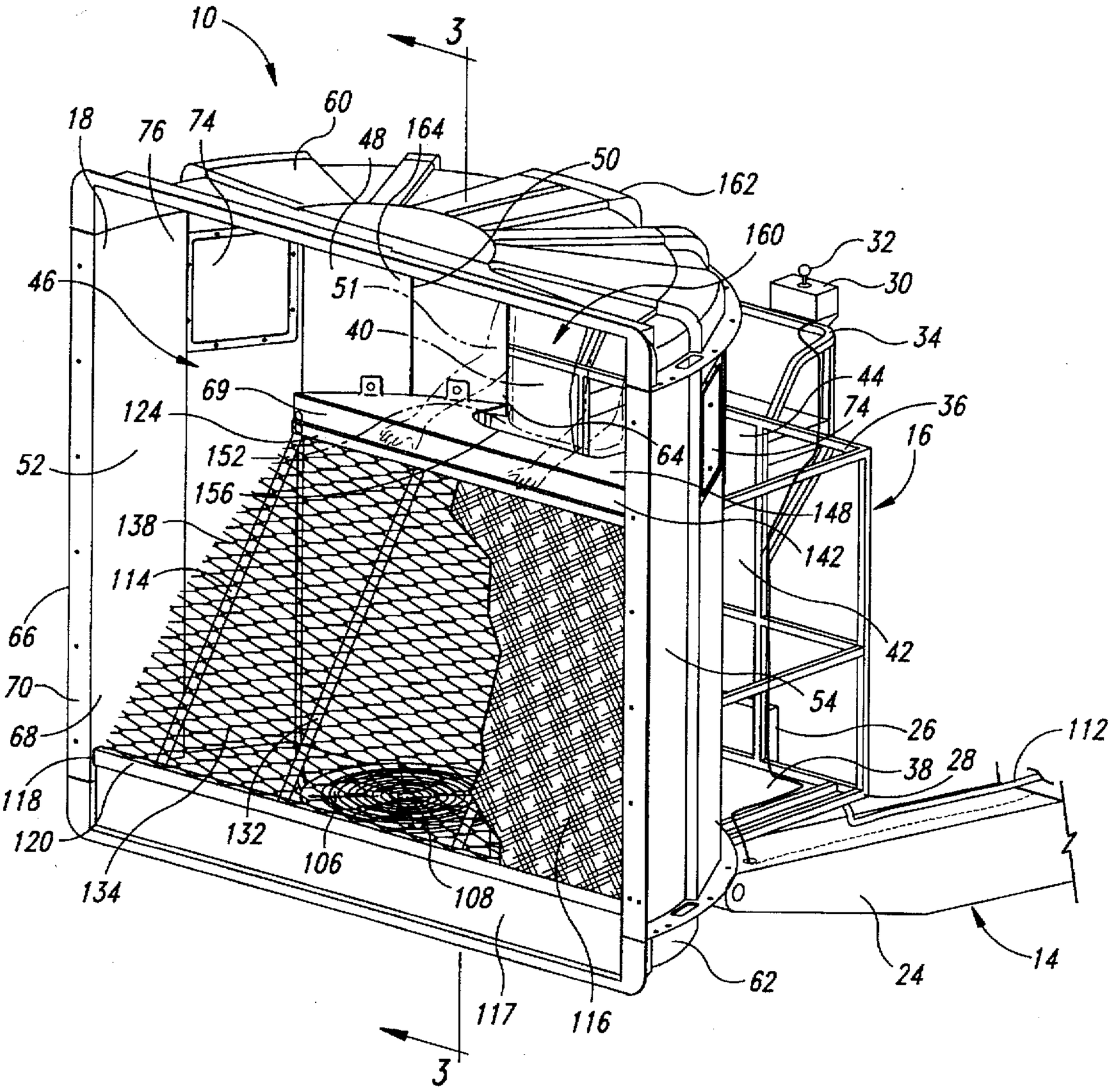

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Fig. 2

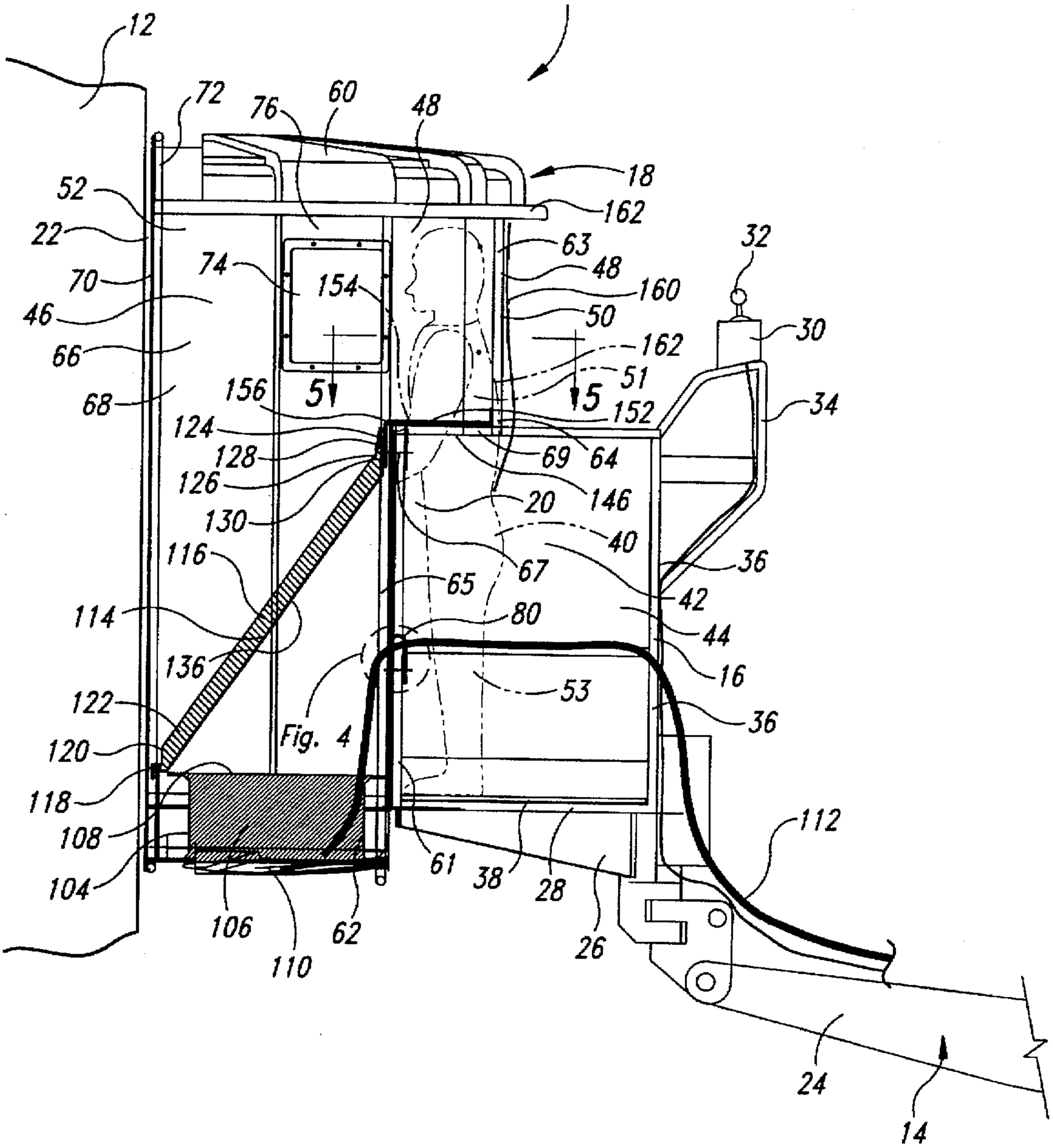
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Fig. 4
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Fig. 3

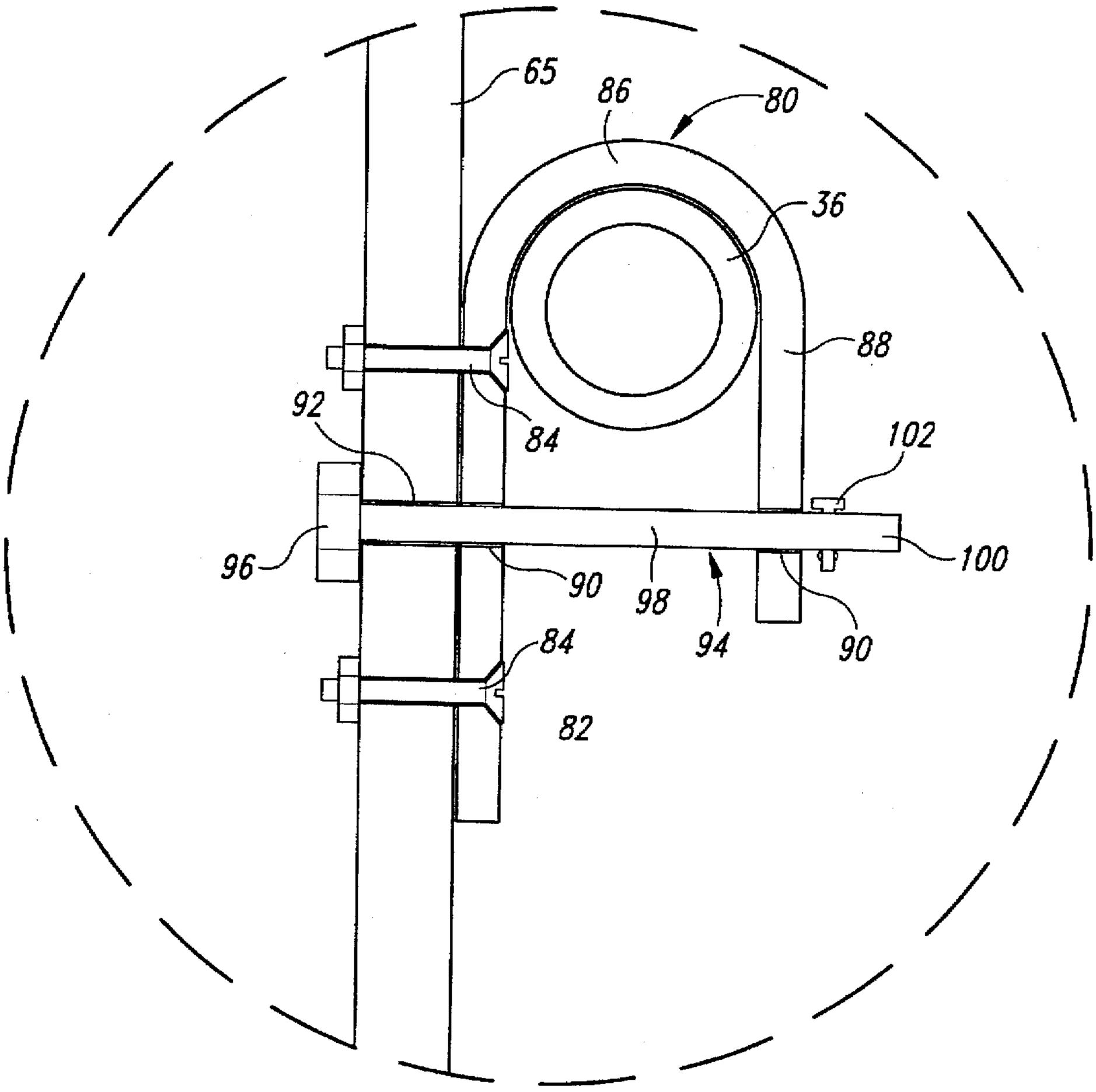

Fig. 4

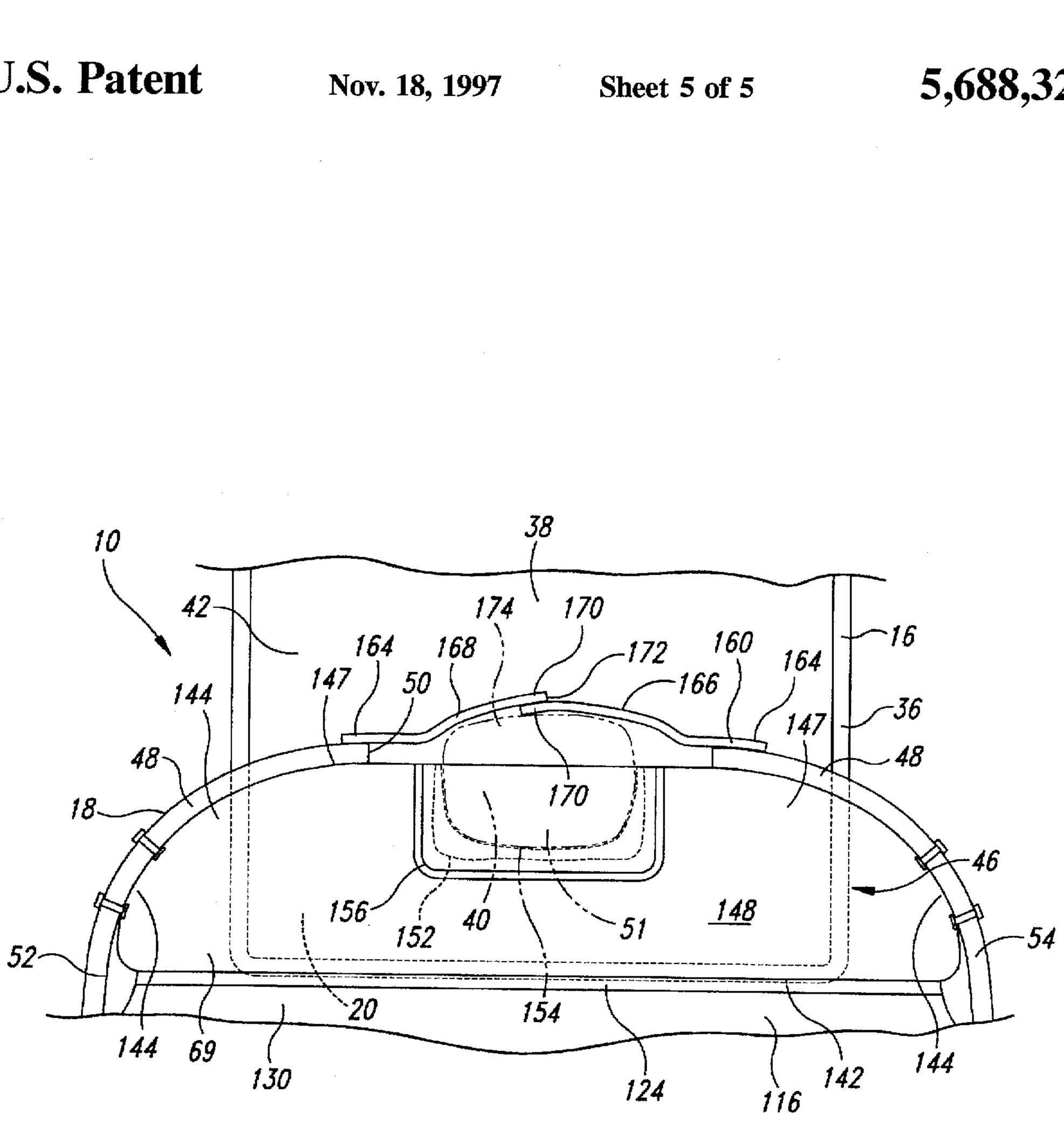
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Fig. 5

SPRAY CONTAINMENT AND ENCLOSURE ASSEMBLY

TECHNICAL FIELD

The present invention relates to work platforms and, more particularly, to work platform enclosures used during spraying operations on a work surface.

BACKGROUND OF THE INVENTION

Routine maintenance of large structures, such as bridges, ships and buildings has become prohibitively expensive for private owners as well as for state and federal government. Routine maintenance that can add many years to a structure's operational life includes cleaning, priming, painting, or other surface spray treatments. Many surface spray treatments create a substantial amount of airborne particulates resulting from over-spray and the release of paint or volatile components into the environment.

The airborne particulates from the over-spray of, as an example, paint, can inadvertently drift or fall onto surrounding structures, thereby requiring expensive and time-consuming cleaning or repainting of the surrounding structures. Further, the paint and its volatile components that enter the atmosphere can settle onto the surrounding structures and require remedial action. The common clean-up techniques used are often not sufficient to prevent contamination of the surrounding environment. Environmental concerns and regulations directly impact the expense of routine maintenance, and sometimes render the maintenance procedures economically infeasible.

Many processes have been attempted in the past to alleviate these problems. For example, paint containment enclosures have been attempted wherein a worker is contained within a containment enclosure during the entire spraying operation. While contained within the enclosure, the worker must be supplied with a breathing system, and the worker cannot exit the enclosure until the enclosure is removed from the work surface to a position allowing the worker to exit. Such work conditions are very strenuous and taxing on the worker. The conventional work platforms used for surface spray operations are movable, but such movement is not quick or convenient, and is not easily controlled by the worker on the platform. Adjusting the platform's position requires substantial time, manpower, communication, and coordination between the platform workers and the platform movers. The difficulty in moving and repositioning of the work platform results in a greater number of man-hours required to complete a job and thus results in a higher cost.

SUMMARY OF THE INVENTION

The present invention is directed toward a spray containment enclosure assembly that solves the problems that exist with conventional devices. In a preferred embodiment of the invention, the spray containment enclosure assembly includes a personnel basket directly supported by a support member, and a rigid enclosure removably carried by the personnel basket. The rigid enclosure defines an interior area and the personnel basket is exterior of the interior area. The personnel basket has a forward portion and a rearward portion, and the personnel basket is sized to allow a worker in the personnel basket to move between the forward and rearward positions. A rear wall of the rigid enclosure is located between the forward and rearward portions of the personnel basket. The rear wall has an opening therein

shaped and sized to allow at least the upper torso of the worker to move into and out of the enclosure's interior area when the worker moves between the forward and rearward portions of the personnel basket. The enclosure has an open front side opposite the rear wall, and the open front side is adapted to be positioned adjacent to a work surface so as to form an airway gap between the open front side of the enclosure and the work surface extending about the perimeter of the enclosure at the open front side. The open front side defines an access opening providing direct access to the work surface from the enclosure's interior area.

An air filter support is attached to the enclosure and spans across the interior area of the enclosure. The air filter support includes a support grate that slopes upwardly and rearwardly from the open front side toward the rear wall. An air filter is removably attached to the air filter support and is supported at an angle by the grate. The air filter also spans across the width of the enclosure's interior area. An air moving device, such as a fan, is attached to the enclosure at a position with the air filter between the fan and the enclosure's open front side. The fan draws air into the interior area through the airway gap to create an inward airflow that prevents the airborne particulates that are emitted during the spraying operation from exiting the interior area through the airway gap The fan draws air through the air filter, where airborne particulates are collected.

A shelf-like cross member extends across the interior area of the rigid enclosure above the forward portion of the personnel basket to form a generally flat, horizontal structure within the enclosure. The cross member has a rear edge portion with a forwardly projecting recess that is shaped and sized to receive therein at least a front portion of a torso of the worker during a spraying operation when the worker is in the forward portion of the personnel basket and in a working position. A yieldable skirt seal extends across the recess and is positioned to elastically deflect forwardly, and sealably engage the front portion of the worker's torso when the worker is in the working position. The skirt seal provides an airflow barrier between the worker's torso and the cross member during the spraying operation.

A flexible cover member, such as an air-impervious curtain, is attached to the rigid enclosure and positioned to substantially cover the opening in the rear wall. The cover member is movable relative to the enclosure to allow the worker to move through the opening between the forward and the rearward portions of the personnel basket. The cover member is positioned to sealably engage the rear wall of the enclosure around the opening to form a seal therebetween. The cover member is sufficiently flexible to sealably engage a rear portion of the worker's torso when the worker is in the working position to substantially block air from being drawn by the fan through the opening and into the enclosure's interior area. Accordingly, the air drawn into the interior area of the enclosure enters substantially exclusively through the airway gap and prevents any airborne particulates resulting from the spraying operation from exiting the enclosure through the airway gap.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective rear view of a spray containment enclosure assembly in accordance with the present invention, with an open front side of a rigid spray containment enclosure shown positioned adjacent to a work surface.

FIG. 2 is an enlarged fragmentary front isometric view of the spray containment enclosure assembly of FIG. 1 illustrated removed from the work surface, and a worker is

illustrated in phantom lines standing in a personnel basket in a working position with the worker's torso being within an interior area of the rigid enclosure.

FIG. **3** is a cross-sectional view taken substantially along line **3—3** of FIG. **2**, illustrating the rigid enclosure adjacent to the work surface with an airway gap therebetween.

FIG. **4** is an enlarged, fragmentary side view of a platform hook bracket connecting the rigid enclosure to the personnel basket.

FIG. **5** is an enlarged cross-sectional view taken substantially along line **5—5** of FIG. **3** illustrating a cross member extending across the interior area of the rigid enclosure with a skin seal illustrated in solid lines spanning across a recess in the cross member, and the skirt seal illustrated in phantom lines in a forwardly deflected position along with the torso of the worker also illustrated in phantom lines in the working position.

DETAILED DESCRIPTION OF THE INVENTION

A spray containment enclosure assembly **10** in accordance with the present invention is shown in the drawings for purposes of illustration. As shown in FIG. **1**, the spray containment enclosure assembly **10** is used in a spraying operation of a work surface **12** of a structure, such as a ship, building, water tank, or bridge, and includes a positionable support arm **14** that directly supports a personnel basket **16** of conventional design. A rigid enclosure **18** is removably carried by a forward portion **20** of the personnel basket **16**, such that the rigid enclosure and the personnel basket are movable as a unit by the support arm **14** to position the rigid enclosure adjacent to the work surface **12** with a peripheral airway gap **22** therebetween. The spray containment enclosure assembly **10** is adapted to draw air into the rigid enclosure **18** through the airway gap **22** to prevent airborne particulates in the air within the rigid enclosure from exiting through the airway gap, thereby containing within the rigid enclosure **18** any over-spray or airborne particulates resulting from the spraying operation. The air is filtered within the rigid enclosure **18** to remove the particulates, and the filter air is exhausted from the rigid enclosure to the ambient air.

As best seen in FIGS. **1**, **2**, and **3**, the support arm **14** is a hydraulic boom arm having an outer arm section **24** movably connected to a basket support structure **26**. The basket support structure **26** is rigidly attached to a bottom portion **28** of the personnel basket **16**, such that movement of the basket support structure moves the personnel basket. The basket support structure **26** is rotatable relative to the outer arm section **24** of the support arm **14** to allow the basket support structure and personnel basket **16** to rotate and move as a unit relative to both the outer support arm and the work surface **12**.

A control device **30** is mounted to the personnel basket **16** such that a worker **40** can operate the control device while standing in the personnel basket **16**. In the illustrated embodiment, the control device **30** includes a conventional joystick-type control member **32** mounted to a rear railing structure **34** of the personnel basket **16**. The control device **30** is operatively connected to a hydraulic system (not shown) of the positionable support arm **14** for selectively adjusting the position of the support arm, the personnel basket **16**, and the rigid enclosure **18** relative to the work surface **12**.

As best seen in FIGS. **2** and **3**, the personnel basket **16** of the illustrated embodiment is constructed of a plurality of tubular sections **36** welded or otherwise securely interconnected together as a railing around a standing plate **38** on which the worker **40** stands. The tubular sections **36** and the standing plate **38** define a working area **42** in the personnel basket **16** that receives and contains the worker **40** therein during the spraying operation. The personnel basket **16** has a rearward portion **44** opposite the forward portion **20**, with the forward portion being closer to the work surface **12** (FIG. **3**) than the rearward portion during the spraying operation. The personnel basket **16** is sized to allow the worker **40** to move about the work area **42** between the forward and rearward portions, **20** and **44**, respectively, during the spraying operation.

The personnel basket **16** removably carries the rigid enclosure **18** such that the forward portion **20** of the personnel basket **16** is contained within an interior area **46** of the rigid enclosure, and the rearward portion **44** of the personnel basket is exterior of the enclosure's interior area. A rear wall **48** of the rigid enclosure **18** is positioned between the forward and rearward portions **20** and **44** of the personnel basket **16**. The rear wall **48** has an opening **50** therein shaped and sized to allow the worker **40** to move between the forward and rearward portions **20** and **44** of the personnel basket **16**, thereby moving into and out of the interior area **46** of the rigid enclosure **18** as desired to complete the spraying operation.

During the spraying operation, the worker **40** stands in a working position on the standing plate **38** in the forward portion **20** of the personnel basket **16** (as shown by the worker illustrated in FIGS. **2** and **3**). In the working position, a torso **51** of the worker **40** is substantially within the interior area **46** of the rigid enclosure **18** to conduct the spraying operation. As discussed in detail below, the worker's lower body **53** is exterior of the interior area, and a seal is created between the worker's torso **51** and rigid enclosure **18** to block air from being drawn around the torso and into the enclosure. The work area **42** of the personnel basket **16** is sized so the worker **40** can move rearwardly away from the working position, and through the rear wall opening **50**, and to the rearward portion **44** of the personnel basket **16**, thereby moving out of the interior area **46** of the rigid enclosure **18**. Thus, the worker **40** can easily, quickly and safely move out of the interior area **46** and into the fresh air without having to move the personnel basket **16** or support arm **14** away from to the work surface **12**. When the worker **40** is standing in the rearward portion **44** of the personnel basket **16**, the worker can see portions of the work surface **12** that have been the subject of the spraying operation or that will be the subject of the spraying operation. In addition, the worker **40** can use the control device **30** to control the position of the spray containment enclosure assembly **10** relative to the work surface **12** as desired to continue the spraying operation.

In the illustrated embodiment, the personnel basket **16** and the rigid enclosure **18** are supported by the support arm **14**. In an alternate embodiment, the personnel basket **16** is supported by support cables (not shown) that extend upwardly to a conventional trolley assembly or the like that is positionable with respect to the work surface **12** so as to operatively adjust the position of the rigid enclosure **18** and the personnel basket **16** with respect to the work surface.

As best seen in FIGS. **2** and **3**, the rigid enclosure **18** is a semi-cylindrical structure that is removably carried by the tubular sections **36** at the forward portion **20** of the personnel basket **16**. The rigid enclosure **18** includes a curved right sidewall **52**, which is located to the right of the worker **40** when standing in the working position, and a curved left sidewall **54**, which is located to the left of the worker when

in the working position. The rear wall **48** extends between the right and left sidewalls **52** and **54**. The rear wall **48** is securely attached to the right and left sidewalls **52** and **54** by conventional fasteners. A semi-circular top wall **60** is securely connected to an upper end of the right sidewall **52**, the left sidewall **54**, and the rear wall **48** by conventional fasteners. The right sidewall **52** and the left sidewall **54** extend downwardly from the top wall **60** and terminate at lower ends **61** that are just below the standing plate **38**. A bottom wall **62** is securely fastened to a lower end of the right and left sidewalls **52** and **54** opposite the top wall **60**.

As best seen in FIG. **3**, the rear wall **48** has a curved rear upper wall portion **63** and a flat rear lower wall **65**. The rear upper wall portion **63** is secured at an upper end to the top wall **60** and extends downwardly to a bottom edge **64** in a position that approximately corresponds with the top rail tube of the tubular section **36** of the personnel basket **16**. The bottom edge **64** of the rear upper wall portion **63** is located between the forward portion **20** and the rearward portion **44** of the personnel basket **16**. The rear lower wall portion **65** is securely connected along its sides to the right and left sidewalls **52** and **54**, and connected at a bottom end to the bottom wall **62** forwardly adjacent to the standing plate **38**. The rear lower wall portion **65** extends upwardly and terminates at a top edge **67** forwardly adjacent to the top rail tube of the tubular sections **36** of the personnel basket **16**. Accordingly, the top edge **67** of the rear lower wall portion **65** is at approximately the same height relative to the personnel basket **16** as the bottom edge **64** of the rear upper wall portion **63**, but the rear lower wall portion is forwardly offset from the rear upper wall portion with a space between the top edge **67** and the bottom edge **64**. As discussed in greater detail below, a substantially horizontal, shelf-like cross member **69** extends between and is securely fastened to the top edge **67** of the rear lower wall portion **65** and the bottom edge **64** of the rear upper wall portion **63**.

The right sidewall **52**, the left sidewall **54**, the top wall **60**, and the bottom wall **62** have forward edges **66** that interconnect to define the perimeter of an open front side **68** of the rigid enclosure **18** that is opposite the rear wall **48**. The open front side **68** provides the worker **40** with direct access to the work surface **12** from the interior area **46** of the rigid enclosure **18** when the worker is in the working position. The forward edges **66** have a substantially flat front flange **70** that is adapted to be positioned adjacent to the work surface **12** (FIG. **3**) during the spraying operation to define the airway gap **22** between the rigid enclosure **18** and the work surface **12**. A rigid support tube **72** is connected to the right sidewall **52**, the left sidewall **54**, the top wall **60** and the bottom wall **62**, rearward of and adjacent to the forward edges **66** thereof The rigid support tube **72** extends around the perimeter of the open front side **68** of the rigid enclosure **18** to provide additional structural support at the front of the enclosure.

The rigid enclosure **18** of the preferred embodiment is constructed of a substantially translucent material, such as polyethylene (cross-linked or high density) that provides a substantially rigid structure while allowing light to enter the rigid enclosure's interior area **46** to enhance the visibility within the interior area during the spraying operation. As best seen in FIG. **2**, each of the right and left sidewalls **52** and **54** include a transparent view port **74** in the upper portion **76** of the sidewall and adjacent to the top wall **60**. The view ports **74** are positioned to allow the worker **40** to see out of the rigid enclosure **18** when the worker is in the interior area **46** and in the working position. The view ports **74** also allow light to enter into the rigid enclosure **18** to further enhance visibility during the spraying operation.

The rigid enclosure **18** is a lightweight structure that is removably retained on the personnel basket **16**. The rear lower wall portion **65** has a plurality of platform hanger hooks **80** securely fastened thereto to lockably engage selected forward tubes of the tubular sections **36** of the personnel basket **16**. As best seen in FIG. **4**, each of the platform hooks **80** is an inverted U-shaped member having a first leg **82** securely attached to the rear lower wall portion **65** by a pair of conventional fasteners **84**. The first leg **82** is integrally connected to a curved upper portion **86** of the platform hook **80**. The curved upper portion **86** is shaped to extend around and rest on a selected tube of the tubular sections **36**. A second, free leg **88** of the platform hook **80** extends downwardly from the curved upper portion **86** opposite the first leg **82**. The first leg **82** and the second, free leg **88** have coaxially aligned apertures **90** that are aligned with a similarly sized aperture **92** in the rear lower wall portion **65**. These aligned apertures **90** and **92** removably receive a locking pin **94** therethrough with the selected tube of the tubular sections **36** being captured between the locking pin and the curved upper portion **86** of the platform hook **80**, thereby locking the platform hook **80** onto the selected tubular section of the personnel basket **16**.

The locking pin **94** of the illustrated embodiment has an enlarged head portion **96** that engages the rear lower wall portion **65** opposite the first leg **84** of the platform hook **80**. A shank **98** of the locking pin **94** extends through the apertures **90** and **92**, and a free end **100** of the shank extends past the second, free leg **88**. A friction-retaining pin **102** extends through the free end **100** of the locking pin **94** outward of and adjacent to the second free leg **88** of the platform hook **80**, so as to prevent the locking pin from being inadvertently removed.

Accordingly, the rigid enclosure **18** is easily and quickly removed from the personnel basket **16** by removing the friction-retaining pins **102** from the locking pins **94** and removing the locking pins from the platform hooks **80** for the rear lower wall portion **65**. Thereafter, the rigid enclosure **18** is lifted upward until the platform hooks **80** are lifted off of the respective tubes of the tubular sections **36** of the personnel basket **16** upon which they were hung, allowing the rigid enclosure **18** to be moved forward and away from the personnel basket to a desired location.

In the illustrated embodiment of FIG. **3**, the bottom wall **62** of the rigid enclosure **18** has an exhaust aperture **104** that has a fan **106** mounted therein. The fan **106** is positioned to draw air into the interior area **46** through the airway gap **22**. The fan **106** of the illustrated embodiment is operatively connected to the control device **30** on the personnel basket **16** such that the worker **40** can activate and deactivate the fan while standing in the rearward portion **44** of the personnel basket **16**. The air drawn into the interior area **46** through the airway gap **22** is drawn by the fan **106** through an air filter **116** and is exhausted to the ambient air exterior of the rigid enclosure **18**. The fan **106** is secured to the bottom wall **62** such that an upper intake portion **108** of the fan is positioned above the bottom wall within the interior area **46**. A lower discharge portion **110** of the fan **106** is positioned below the bottom wall **62** so as to exhaust air out of the interior area **46** of the rigid enclosure into the ambient air.

In the illustrated embodiment, the fan **106** is an air-powered reaction fan that utilizes pressurized air to drive the fan blades, rather than electricity, thereby avoiding the risk of creating an electric spark within the interior area **46** of the rigid enclosure during the spraying operation. As best seen in FIG. **3**, a pressurized air hose **112** is operatively attached

at one end to the fan **106**, and the opposite end (not shown) of the air hose is attached to a pressurized air source (not shown). The preferred air-powered reaction fan **106** for the illustrated embodiment has a capacity of approximately 11,000 cubic feet per minute (cfm) of airflow. Other fans having greater or lesser capacity may be used as needed for a desired airflow into the interior area. In addition, other air moving devices can be used to draw air into the interior area **46** through the airway gap **22** and out an exhaust port.

In the illustrated embodiment of FIG. **3**, the rigid enclosure **18** is shown positioned adjacent to the work structure **12** such that the airway gap **22** is approximately one inch wide. This one inch airway gap **22** extends around the entire perimeter of the open front side **68** of the rigid enclosure **18** at the forward edges **66** thereof and allows a significant flow of air, such as approximately 11,000 cfm, to be drawn into the rigid enclosure **18**. This air flow through the airway gap **22** is sufficient to prevent particulates sprayed into the air within the interior area **46** during the spraying operation from exiting the rigid enclosure **18** through the airway gap, thereby containing the particulates, and preventing them from entering the environment.

The air drawn into the interior area **46** of the rigid enclosure **18** is filtered to remove the particulates before the air is exhausted through the fan **106**. The spray containment enclosure assembly **10** includes an angled filter support **114** that removably retains the air filter **116** in a position such that the air must pass through the air filter before being exhausted by the fan **106**. As best seen in FIG. **2**, the filter support **114** is attached to the right and left sidewalls **52** and **54** and extends across the interior area **46** above the fan **106**. The filter support **114** has a lower, forward retaining member **118** spanning between the right and left sidewalls **52** and **54** across the open front side **68** and extending upwardly from the bottom wall **62**. The lower, forward retaining member **118** includes a vertically oriented lower support plate **117** securely fastened to the bottom wall **62** and the right and left sidewalls **52** and **54** rearward of and adjacent to the open front side **68**. Accordingly, the lower support plate **117** is positioned forward of and adjacent to the upper intake portion **108** of the fan **106**. The forward retaining member **118** has a vertically oriented retaining lip **120** attached to an upper portion of the lower support plate **117**. The retaining lip extends along the length of the lower support plate **117** between the right and left sidewalls **52** and **54** so as to removably retain a bottom edge portion **122** of the air filter **116**.

The filter support **114** has an upper, rearward retaining member **124** that is securely attached to the cross member **69** at a height above the lower, forward retaining member **118**. The rearward retaining member **124** extends substantially horizontally between the right and left sidewalls **52** and **54** across the interior area **46**. The rearward retaining member **124** includes a support plate **126** extending along its length, and a stiff, yet flexible, retaining blade **128** that extends downwardly over the length of the support plate. The retaining blade **128** is adapted to extend over an upper edge portion **130** of the air filter **116** and press the air filter upper edge portion against the support plate **126**, thereby removably retaining the upper edge portion against the rearward retaining member **124**.

In the preferred embodiment, the support plate **126** of the rearward retaining member **124** has a plurality of retaining pins (not shown) positioned along the length of the support plate to engage and pierce through the upper edge portion **130** of the air filter **116**. The retaining pins securely and removably retaining the air filter **116** in place on the rearward retaining member **124**.

As best seen in FIG. **2**, the filter support **114** includes a plurality of support stringers **132** extending upwardly and rearwardly from the lower, forward retaining member **118** to the upper, rearward retaining member **124**. A support grate **134** is supported along the lengths of the support stringers **132**. The support grate **134** is a diamond-patterned grate having a plurality of openings through which air can easily pass. The support grate **34** extends between the right and left sidewalls **52** and **54** so as to form a grate structure above the fan **106** and across the entire area between the right and left sidewalls and the lower, forward and upper, rearward retaining members **118** and **124**. The support grate **134** and the support stringers **132** provide support for a middle portion **136** of the air filter **116**. The support grate **134** has side portions **138** that are shaped to correspond to the curved shape of the curved fight and left sidewalls **52** and **54** so as to follow the contour of the rigid enclosure **18** between the forward retaining member **118** and the rearward retaining member **124**.

The air filter **116** is a fiberglass filter that has a shape corresponding to the shape of the support grate **134** such that the air filter extends across the entire interior area **46** between the forward retaining member **118** and the rearward retaining member **124**, and between the right and left sidewalls **52** and **54**, thereby creating a filtering barrier between the open front side **68** of the rigid enclosure **18** and the fan **106**.

The fiberglass air filter **116** of a preferred embodiment is disposable and is adapted to remove paint particulates from air drawn through the filter by the fan **106**. The air filter **116** is supported at an angle sloping upwardly and rearwardly from its bottom edge portion **122** so as to maximize the surface area of the air filter, and thus the filtering area, while using a flat filter fully positioned within the interior area **46** of the rigid enclosure **18**. When the air filter **116** is filled to the point where filtration is no longer effective, the air filter is quickly and easily removed from the filter support **114**, disposed of, and a new filter is installed on the filter support.

Accordingly, when the spray containment enclosure assembly **10** is positioned adjacent to the work surface **12** such that the airway gap **22** is formed between the rigid enclosure **18** and the work surface, and the fan **106** is activated by the worker **40**, the fan draws air from outside of the rigid enclosure through the airway gap and into the interior area **46**. The airflow in the interior area **46** draws the air and airborne particulates, such as paint or the like, within the interior area to the air filter **116**. The air passes through the filter so as to filter the particulates out of the air. The filtered air is then pulled into the upper intake portion **108** of the fan **106** and exhausted out the lower discharge portion **110** of the fan to the ambient air exterior of the rigid enclosure **18**. Accordingly, the particulates in the air within the interior area **46** are retained within the interior area and do not escape through the airway gap **22** to the environment.

As best seen in FIGS. **2** and **5**, the cross member **69** combines with the rear upper wall portion **63**, the rear lower wall portion **65**, the right sidewall **52**, the left sidewall **54**, the top wall **60**, and the bottom wall **62** to define the interior area **46** of the rigid enclosure **18**. The cross member **69** has a substantially straight front edge **142** that extends across the entire interior area **46** between the right and left sidewalls **52** and **54**, and that is securely connected to the top edge **67** of the rear lower wall portion **65**. In the illustrated embodiment, the rearward retaining member **124** is fastened to the front edge **142** of the cross member **69** such that the air filter **116** extends downwardly and forwardly from the front edge to the lower, forward retaining member **118** at the

open front side **68**. Accordingly, air cannot flow between the front edge **142** and the air filter **116** without passing through the air filter.

The cross member **69** has curved right and left rearward edges **144** extending rearwardly from the front edge **142**. The right and left rearward edges **144** follow the curved contours of the rear upper wall portion **63**. The right and left rearward edges **144** are securely fastened to the rear upper wall portion **63** adjacent to the bottom edge **64** to prevent airflow therebetween. The cross member **36** is positioned over the forward portion **20** of the personnel basket **16**.

The cross member **69** has a relatively horizontal, flat upper surface **148** that provides a shelf-like surface on which equipment, supplies, or the like may be stored or temporarily placed during the spraying operation. The flat upper surface **148** also provides an area upon which the worker can rest or support an arm or hand during the spraying operation to minimize fatigue. In a preferred embodiment, the cross member **69** is a molded, rigid plastic structure that provides the shelf-like surface while maintaining a lightweight component of the rigid enclosure **18** so as to provide for an overall lightweight spray containment assembly **10**.

In the embodiment illustrated in FIGS. **2** and **3**, the cross member **69** is positioned at a height in the interior area **46** that substantially corresponds to the torso **51** of the worker **40**. A central rear edge **147** of the cross member **69**, extending between the right and left rearward edges **144**, has a forwardly projecting recess **152** that is shaped and sized to receive therein at least a front portion **154** of the worker's torso **51** during the spraying operation when the worker **40** is in the working position. Accordingly, at least the upper portion of the worker's torso **51** is within the interior area when the worker is in the working position and standing in the forward portion **20** of the personnel basket **16**. The worker's legs and lower body are rearward of and adjacent to the rear lower wall portion **65**, and thus exterior of the interior area **46** of the rigid enclosure **18**.

As best seen in FIG. **5**, a yieldable skin seal **156** is removably attached to the cross member **69** at a plurality of positions around the recess **152** so as to span across substantially the entire recess when the skin seal is in an undeflected position, shown in solid lines, as occurs when the worker **40** is not in the working position. The skin seal **156** is adapted to elastically deflect forwardly from the undeflected position to a deflected position, illustrated in phantom lines so as to engage the front portion **152** of the worker's torso **51** when the worker **40** moves into the recess **152** and into the working position. In the deflected position, the skirt seal **156** sealably engages the front portion **154** of the worker's torso **51** to substantially block any air from flowing between the worker's torso and the central rear edge **147** of the cross member **69**.

The yieldable skirt seal **156** is constructed of a flexible material, such as cloth, attached along its rearward edge to an elastic cord extending across the rearward opening of the recess **152** so that it is biased to the undeflected position. As such, when the worker **40** moves rearwardly away from the working position, the skin seal moves rearwardly from the deflected position to the undeflected position. Accordingly, an airflow barrier is provided between the front portion **154** of the worker's torso **51** and the cross member **69** such that airflow into the interior area **46** is substantially through the airway gap **22**.

As discussed above, the rear wall **48** of the rigid enclosure **18** illustrated in FIG. **3** has the rear wall opening **50** in the rear upper wall portion **65** that is sized to allow the worker **40** to move between the rearward portion **44** and the forward portion **20** of the personnel basket **16**, thereby moving the worker's upper torso **51** into and out of the interior area **46** of the rigid enclosure **18**. As best seen in FIGS. **3** and **5**, the rear wall opening **50** is substantially covered by a two-piece flexible curtain **160** sealably connected to a rearward portion **162** of the top wall **60** (FIG. **3**) above the rear wall opening. The curtain **160** comprises two flexible sheets of substantially air-impermeable, transparent plastic material having a combined width greater than the rear wall opening **50**. The transparency of the curtain **160** allows light to enter into the interior area **46** of the rigid enclosure **18**, to facilitate lighting therein and enhance visibility for the worker **40** performing the spraying operation. The curtain **160** has outer edge portions **164** positioned immediately adjacent to the rear upper wall portion **63** around the rear wall opening **50** along the entire height of the rear wall opening. In the preferred embodiment, the curtain **160** extends downwardly beyond the bottom edge **64** (FIG. **3**) of the rear upper wall portion **65** to terminate at a position below the worker's upper torso **51** when the worker **40** is standing in the working position.

The curtain **160** of the illustrated embodiment has a left curtain section **166** and a fight curtain section **168** that extend toward each other from their outer edge portions **164**. The left and right curtain sections **166** and **168** have inner edge portions **170** that overlap each other to form a sealable slit **172** in the middle of the curtain **160**. Accordingly, the left and right curtain sections **166** and **168** are separable at their inner edge portions **170** to allow the curtain sections to be moved apart so the worker **40** can easily move to and from the working position in the forward portion **20** of the personnel basket **16**.

When the worker **40** is in the working position, as shown in phantom lines in FIG. **5**, the left and right curtain sections **166** and **168** have a sufficient flexibility to engage a rearward portion **174** of the worker's upper torso **51**. When the fan **106**, illustrated in FIG. **3**, is activated, the fan creates a negative pressure within the interior area **46** of the rigid enclosure **18** so as to draw air into the interior area **46** through the airway gap **22**. The negative pressure in the interior area **46** also draws the left and right curtain sections **166** and **168** toward the interior area so as to cause the outer portions **164** of the left and right curtain sections to sealably engage the rear upper wall portion **63** around the rear wall opening **50**. In addition, the leer and fight curtain sections **166** and **168** are pulled into sealable engagement with the rearward portion **174** of the worker's upper torso **51**, with the overlapping inner edge portions **170** sealably engaging each other.

Accordingly, the curtain **160** substantially blocks air from being drawn into the interior area **46** through the rear wall opening **50**, and around the worker **40**. Air is also prevented from entering the interior area **46** by the sealable engagement of the user's upper torso **51** with the yieldable skirt seal **156**, as discussed above. As a result, the air drawn into the interior area **46** effectively enters only through the airway gap **22**, thereby preventing the particulates within the interior area **46** from moving out of the interior area through the airway gap. Instead, the particulates are drawn downwardly into the air filter **116**, and the filtered air is exhausted out of the rigid enclosure's interior area **46**.

In an alternate embodiment, the flexible, air-impervious curtain **160**, is a single sheet of air-impervious material that is movable relative to the rigid enclosure, and the worker **40** enters the interior area **46** by moving one outer edge portion **164** of the curtain away from the rear wall **48** so as to gain access into the interior area and the working position.

Numerous modifications and variations of the spray containment enclosure assembly disclosed herein will occur to those skilled in the art in view of this disclosure. Therefore, it is to be understood that these modifications and variations, and equivalents thereof, may be practiced while remaining within the spirit and the scope of the invention as defined by the following claims.

We claim:

1. A spray containment enclosure assembly for use in a spraying operation on a work surface, comprising:

a support member;

a personnel basket supported by said support member, said personnel basket having a work area therein sized to receive a worker, said work area having a forward portion and a rearward portion, said forward portion being closer to the work surface than said rearward portion during the spraying operation, said work area having a shape and size that allows the worker to move between said forward and rearward portions;

an enclosure attached to said personnel basket, said enclosure defining an interior area, said enclosure being positioned with respect to said personnel basket such that when the worker is in said forward portion of said work area at least an upper torso of the worker is within said interior area, said enclosure having a cross member having an edge portion with a recess shaped and sized to receive therein at least a front portion of the upper torso of the worker during the spraying operation when the worker is in said forward portion of said work area, said rearward portion of said work area being exterior of said interior area such that the worker is substantially exterior of said interior area when the worker is in said rearward portion of said work area, said enclosure having an open front side to provide the worker with direct access to the work surface from said interior area, said open front side of said enclosure being positioned adjacent to the work surface during the spraying operation to define an airway gap between said enclosure and the work surface, said enclosure having an entry opening therein shaped and sized to allow the worker to move into and out of said interior area upon the worker moving between said forward and rearward portions of said work area, said enclosure having an air exhaust portion for exhausting air from said enclosure;

an air filter coupled to said enclosure;

an air moving device connected to said enclosure and coupled to said air exhaust portion to draw air into said interior area of said enclosure through said airway gap to prevent airborne particulates that are sprayed within said interior area during the spraying operation from exiting said interior area through said airway gap, said air moving device drawing air out of said interior area through said air exhaust portion, said exhausted air being passed through said air filter;

a yieldable skirt seal extending across said recess, said skirt seal being positioned to elastically deflect forwardly and sealably engage the front portion of the upper torso of the worker when the worker moves to said forward portion of said work area to substantially block airflow between the upper torso of the worker and said cross member such that a portion of the worker below said skirt seal is exterior of said interior area; and

a flexible cover member attached to said enclosure and positioned to substantially cover said entry opening, said cover member being movable relative to said enclosure to allow the worker to move through said entry opening between said forward and rearward portions of said work area, said cover member being positioned to sealably engage said enclosure around said opening to form a seal therebetween, said cover member being sufficiently flexible to engage a rear portion of the upper torso of the worker upon activation of said air moving device and when the worker is in said forward portion of said work area to sealably engage the worker to substantially block air from being drawn by said air moving device into said interior area through said entry opening, such that the air drawn into said interior area substantially enters through said airway gap.

2. The spray containment enclosure assembly of claim **1**, further including a control device positioned for operation by the worker while in said personnel basket, said control device being operatively connected to said support member for selectively adjusting the position of said support member and said personnel basket supported by said support member relative to the work surface.

3. The spray containment enclosure assembly of claim **1** wherein said support member is a boom arm.

4. The spray containment enclosure assembly of claim **1**, further including an air filter support in said interior area of said enclosure, said air filter being removably supported by said air filter support in a position to filter the air before the air is drawn out of said interior area through said exhaust portion.

5. The spray containment enclosure assembly of claim **1** wherein said enclosure is a substantially rigid enclosure, said rigid enclosure having first and second sidewalls, a rear wall extending therebetween, a top wall attached to said first and second sidewalls and said rear wall, and a bottom wall opposite said top wall and attached to said first and second sidewalls, a portion of said rear wall being positioned between said forward and rearward portions of said personnel basket, said entry opening being in said rear wall opposite said open front side.

6. The spray containment enclosure assembly of claim **5** wherein said rear wall includes a rear upper wall portion and a rear lower wall portion, said rear upper wall portion extends downwardly from said top wall and terminates at a position above said personnel basket between said forward and rearward portions, said rear lower wall being forward of said forward portion of said personnel basket, said cross member extends between said rear lower wall portion and said rear upper wall portion, such that when the worker is in said forward position, legs of the worker are exterior of said interior area.

7. The spray containment enclosure assembly of claim **6** wherein said flexible cover member is a curtain of substantially air-impervious material, said curtain extending downwardly from said top wall to a position below said cross member to sealably engage the rear portion of the upper torso of the worker at a position below said cross member.

8. The spray containment enclosure assembly of claim **6**, further comprising an air filter support attached to said first and second sidewalls, said air filter support having a forward retaining member positioned toward said bottom wall adjacent to said open front side, a rearward retaining member connected to said cross member, and a support grate extending between said forward and rearward retaining members, said support grate sloping upwardly and rearwardly from said forward retaining member to said rearward retaining member, said air filter being releasably retained by said air filter support, said air filter having top and bottom edge portions and a central portion therebetween, said top edge

portion being releasably retained by said rearward retaining member, said bottom edge portion being releasably retained by said forward retaining member, and said central portion being supported by said support grate.

9. The spray containment enclosure assembly of claim **8** wherein said air exhaust portion is an aperture in said bottom wall, and said air filter is positioned between said open front side of said enclosure and said aperture so the air in said interior is drawn through said air filter before being drawn through said aperture.

10. The spray containment enclosure assembly of claim **1** wherein said enclosure has a bottom wall and said air exhaust portion is an aperture in said bottom wall, said air moving device is a fan supported in said aperture, and said air filter is positioned in said enclosure above said fan.

11. The spray containment enclosure assembly of claim **1** wherein said cross member includes a generally horizontally aligned shelf.

12. A spray containment enclosure assembly for use in a spraying operation on a work surface to contain over-spray from the spraying operation within the enclosure assembly, comprising:

a support member;

a personnel basket supported by said support member, said personnel basket having a work area therein sized to receive a worker, said work area having a forward portion and a rearward portion, said forward portion being closer to the work surface than said rearward portion during the spraying operation, said work area having a shape and size that allows the worker to move between said forward and rearward portions;

an enclosure defining an interior area, said enclosure being positioned with respect to said personnel basket such that when the worker is in said forward portion of said work area at least an upper torso of the worker is within said interior area, said enclosure having a cross member having an edge portion with a recess shaped and sized to receive therein at least a front portion of the upper torso of the worker during the spraying operation when the worker is in said forward portion of said work area, said rearward portion of said work area being exterior of said interior area such that the worker is substantially exterior of said interior area when the worker is in said rearward portion of said work area, said enclosure having an open front side to provide the worker with direct access to the work surface from said interior area, said open front side of said enclosure being positioned adjacent to the work surface during the spraying operation to define an airway gap between said enclosure and the work surface, said enclosure having an entry opening therein shaped and sized to allow the worker to move into and out of said interior area upon the worker moving between said forward and rearward portions of said work area, said enclosure having an air exhaust portion for exhausting air from said enclosure;

an air filter support member in said interior area;

an air filter releasably retained by said air filter support in a position between said open front side of said enclosure and said air exhaust portion to filter the air from said interior area before the air is exhausted through said exhaust portion;

a fan connected to said enclosure at a position to draw air into said interior area through said airway gap between said enclosure and the work surface and through said air filter for discharge through said exhaust portion to prevent airborne particulates within said interior area from exiting said interior area through said airway gap;

a yieldable skirt seal extending across said recess, said skirt seal being positioned to elastically deflect and sealably engage the front portion of the upper torso of the worker when the worker moves to said forward portion to substantially block airflow between the upper torso of the worker and said edge portion of said cross member; and

a flexible cover member attached to said enclosure and positioned to substantially cover said entry opening, said cover member being movable relative to said enclosure to allow the worker to move through said entry opening between said forward and rearward portions of said work area, said cover member being positioned to sealably engage said enclosure around said entry opening to form a seal therebetween, said cover member being sufficiently flexible to engage a rear portion of the upper torso of the worker upon activation of said fan and when the worker is in said forward portion of said work area to sealably engage the worker to substantially block air from being drawn by said fan into said interior area through said entry opening, such that the air drawn into said interior area substantially enters through said airway gap.

13. The spray containment enclosure assembly of claim **12**, further including a control device positioned for operation by the worker in said personnel basket, said control device being operatively connected to said support member for selectively adjusting the position of said support member and said personnel basket supported by said support member relative to the work surface.

14. The spray containment enclosure assembly of claim **12** wherein said support member is a boom arm.

15. The spray containment enclosure assembly of claim **12** wherein said enclosure is a rigid enclosure, said rigid enclosure having first and second sidewalls, a rear wall extending therebetween, a top wall attached to said first and second sidewalls and said rear wall, and a bottom wall opposite said top wall and attached to said first and second sidewalls, a portion of said rear wall being positioned between said forward and rear portions of said personnel basket, said opening being in said rear wall opposite said open front side.

16. The spray containment enclosure assembly of claim **15** wherein said rear wall includes a rear upper wall portion and a rear lower wall portion, said rear upper wall portion extends downwardly from said top wall and terminates at a position above said personnel basket between said forward and rearward portions, said rear lower wall being forward of said forward portion of said personnel basket, said cross member extends between said rear lower wall portion and said rear upper wall portion, such that when the worker is in said forward position, legs of the worker are exterior of said interior area.

17. The spray containment enclosure assembly of claim **16** wherein said flexible cover member is a curtain of substantially air-impervious material, said curtain extending downwardly from said top wall to a position below said cross member to engage the rear portion of the upper torso of the worker at a position below said cross member.

18. The spray containment enclosure assembly of claim **16** wherein said air filter support has a forward retaining member positioned toward said bottom wall adjacent to said open front side, a rearward retaining member connected to said cross member and a support grate extending between said forward and rearward retaining members, said support

grate sloping upwardly and rearwardly from said forward retaining member to said rearward retaining member, said air filter being releasably retained by said air filter support, said air filter having top and bottom edge portions and a central portion therebetween, said top edge portion being releasably retained by said rearward retaining member, said bottom edge portion being releasably retained by said forward retaining member, and said central portion being supported by said support grate.

19. The spray containment enclosure assembly of claim **18** wherein said air exhaust portion is an aperture in said bottom wall, and said air filter is positioned between said open front side of said enclosure and said aperture so the air in said interior area is drawn through said air filter before being drawn through said aperture.

20. The spray containment enclosure assembly of claim **12** wherein said enclosure has a bottom wall and said air exhaust portion is an aperture in said bottom wall, and said fan is supported in said aperture, and said air filter is positioned in said enclosure above said fan.

21. A spray containment enclosure assembly for use with a personnel basket in a spraying operation on a work surface, the personnel basket having a work area therein sized to receive a worker, the personnel basket having a forward portion and a rearward portion, the personnel basket having a shape and size that allows the worker to move between the forward and rearward portions, comprising:

an enclosure attachable to the personnel basket, said enclosure having left and right sidewalls, a rear upper wall extending between said left and right sidewalls, a top wall attached to said left and right sidewalls and said top wall, a rear lower wall extending between said left and right sidewalls, a cross member attached to said rear lower wall and to said rear upper wall, and a bottom wall attached to said left and right sidewalls, said rear upper wall being rearwardly disposed from said rear lower wall with a space therebetween, said cross member extending between said rear lower wall and said rear upper wall and spanning across said space, said enclosure having an interior area defined by said right and left sidewalls, said top wall, said rear upper wall, said rear lower wall, said cross member, and said bottom wall, said cross member having an edge portion with a recess shaped and sized to receive therein at least a front portion of the upper torso of the worker when the worker is in the forward portion of the personnel basket with legs of the worker being exterior of said interior area, said enclosure having an entry opening therein shaped and sized to allow the upper torso of the worker to move into and out of said interior area upon the worker moving between the forward and rearward portions of the personnel basket;

an air moving device connected to said enclosure and adapted to create a negative pressure within said interior area relative to ambient pressure;

a yieldable skirt seal extending across said recess, said skirt seal being positioned to elastically deflect forwardly and sealably engage the front portion of the upper torso of the worker when the worker moves to the forward portion of the personnel basket to substantially block airflow between the upper torso of the worker and said cross member such that a portion of the worker below said skirt seal is exterior of said interior area; and

a flexible cover member attached to said enclosure and positioned to substantially cover said entry opening, said cover member being movable relative to said enclosure to allow the worker to move through said entry opening, said cover member being positioned to sealably engage said enclosure around said entry opening to form a seal therebetween, said cover member being sufficiently flexible to engage a rear portion of the upper torso of the worker when the worker is in the forward portion of the personnel basket to sealably engage the worker to substantially block air from being drawn by said air moving device into said interior area through said entry opening.

22. The spray containment enclosure assembly of claim **21** further including an air filter in said interior area of said enclosure, said enclosure having an exhaust portion for exhausting air out of said interior area, said air filter being positioned to filter the air before the air is drawn out of said interior area through said exhaust portion.

23. The spray containment enclosure assembly of claim **22**, further comprising an air filter support attached to said first and second sidewalls, said air filter support having a forward retaining member positioned toward said bottom wall adjacent to said open front side, a rearward retaining member positioned toward said rear wall and above said forward retaining member, and a support grate extending between said forward and rearward retaining members, said support grate sloping upwardly and rearwardly from said forward retaining member to said rearward retaining member, said air filter being releasably retained by said air filter support, said air filter having top and bottom edge portions and a filter portion therebetween, said top edge portion being releasably retained by said rearward retaining member, said bottom edge portion being releasably retained by said forward retaining member, and said filter portion being supported by said support grate.

24. The spray containment enclosure assembly of claim **21** wherein said enclosure has personnel basket retaining members thereon, said retaining members being removably attachable to said personnel basket.

25. The spray containment enclosure assembly of claim **21** wherein said enclosure is a substantially rigid enclosure.

26. The spray containment enclosure assembly of claim **21**, wherein said entry opening is in said rear upper wall.

27. The spray containment enclosure assembly of claim **21** wherein said flexible cover member is a curtain of substantially air-impervious material, said curtain extending downwardly from said top wall to a position below said cross member such that said curtain sealably engages the rear portion of the torso of the worker at a position below said cross member.

28. The spray containment enclosure of claim **21** wherein said cross member is a generally horizontally aligned shelf extending across said interior area of said enclosure.

29. A spray containment enclosure assembly for use in a spraying operation of a work surface to contain over-spray from the spraying operation within the enclosure assembly, comprising:

a positionable support member;

a personnel basket directly supported by said support member, said personnel basket having a work area therein sized to receive a worker, said personnel basket having a work platform positioned to support the worker in said work area, said work area having a forward portion and a rearward portion, said forward portion facing the work surface during the spraying operation and said work platform supporting the worker in a working position in said forward portion of said work area during the spraying operation, said work area in said personnel basket having a shape and size that allows the worker to move between said forward and rearward portions;

portion being releasably retained by said rearward retaining member, said bottom edge portion being releasably retained by said forward retaining member, and said central portion being supported by said support grate.

9. The spray containment enclosure assembly of claim **8** wherein said air exhaust portion is an aperture in said bottom wall, and said air filter is positioned between said open front side of said enclosure and said aperture so the air in said interior is drawn through said air filter before being drawn through said aperture.

10. The spray containment enclosure assembly of claim **1** wherein said enclosure has a bottom wall and said air exhaust portion is an aperture in said bottom wall, said air moving device is a fan supported in said aperture, and said air filter is positioned in said enclosure above said fan.

11. The spray containment enclosure assembly of claim **1** wherein said cross member includes a generally horizontally aligned shelf.

12. A spray containment enclosure assembly for use in a spraying operation on a work surface to contain over-spray from the spraying operation within the enclosure assembly, comprising:

a support member;

a personnel basket supported by said support member, said personnel basket having a work area therein sized to receive a worker, said work area having a forward portion and a rearward portion, said forward portion being closer to the work surface than said rearward portion during the spraying operation, said work area having a shape and size that allows the worker to move between said forward and rearward portions;

an enclosure defining an interior area, said enclosure being positioned with respect to said personnel basket such that when the worker is in said forward portion of said work area at least an upper torso of the worker is within said interior area, said enclosure having a cross member having an edge portion with a recess shaped and sized to receive therein at least a front portion of the upper torso of the worker during the spraying operation when the worker is in said forward portion of said work area, said rearward portion of said work area being exterior of said interior area such that the worker is substantially exterior of said interior area when the worker is in said rearward portion of said work area, said enclosure having an open front side to provide the worker with direct access to the work surface from said interior area, said open front side of said enclosure being positioned adjacent to the work surface during the spraying operation to define an airway gap between said enclosure and the work surface, said enclosure having an entry opening therein shaped and sized to allow the worker to move into and out of said interior area upon the worker moving between said forward and rearward portions of said work area, said enclosure having an air exhaust portion for exhausting air from said enclosure;

an air filter support member in said interior area;

an air filter releasably retained by said air filter support in a position between said open front side of said enclosure and said air exhaust portion to filter the air from said interior area before the air is exhausted through said exhaust portion;

a fan connected to said enclosure at a position to draw air into said interior area through said airway gap between said enclosure and the work surface and through said air filter for discharge through said exhaust portion to prevent airborne particulates within said interior area from exiting said interior area through said airway gap;

a yieldable skirt seal extending across said recess, said skirt seal being positioned to elastically deflect and sealably engage the front portion of the upper torso of the worker when the worker moves to said forward portion to substantially block airflow between the upper torso of the worker and said edge portion of said cross member; and

a flexible cover member attached to said enclosure and positioned to substantially cover said entry opening, said cover member being movable relative to said enclosure to allow the worker to move through said entry opening between said forward and rearward portions of said work area, said cover member being positioned to sealably engage said enclosure around said entry opening to form a seal therebetween, said cover member being sufficiently flexible to engage a rear portion of the upper torso of the worker upon activation of said fan and when the worker is in said forward portion of said work area to sealably engage the worker to substantially block air from being drawn by said fan into said interior area through said entry opening, such that the air drawn into said interior area substantially enters through said airway gap.

13. The spray containment enclosure assembly of claim **12**, further including a control device positioned for operation by the worker in said personnel basket, said control device being operatively connected to said support member for selectively adjusting the position of said support member and said personnel basket supported by said support member relative to the work surface.

14. The spray containment enclosure assembly of claim **12** wherein said support member is a boom arm.

15. The spray containment enclosure assembly of claim **12** wherein said enclosure is a rigid enclosure, said rigid enclosure having first and second sidewalls, a rear wall extending therebetween, a top wall attached to said first and second sidewalls and said rear wall, and a bottom wall opposite said top wall and attached to said first and second sidewalls, a portion of said rear wall being positioned between said forward and rear portions of said personnel basket, said opening being in said rear wall opposite said open front side.

16. The spray containment enclosure assembly of claim **15** wherein said rear wall includes a rear upper wall portion and a rear lower wall portion, said rear upper wall portion extends downwardly from said top wall and terminates at a position above said personnel basket between said forward and rearward portions, said rear lower wall being forward of said forward portion of said personnel basket, said cross member extends between said rear lower wall portion and said rear upper wall portion, such that when the worker is in said forward position, legs of the worker are exterior of said interior area.

17. The spray containment enclosure assembly of claim **16** wherein said flexible cover member is a curtain of substantially air-impervious material, said curtain extending downwardly from said top wall to a position below said cross member to engage the rear portion of the upper torso of the worker at a position below said cross member.

18. The spray containment enclosure assembly of claim **16** wherein said air filter support has a forward retaining member positioned toward said bottom wall adjacent to said open front side, a rearward retaining member connected to said cross member and a support grate extending between said forward and rearward retaining members, said support